UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,344	01/02/2002	Wim De Pauw	OR920010309US2	2510

7590 11/18/2004	EXAMINER
Ryan, Mason & Lewis, LLP	MITCHELL, JASON D

Suite 205	ART UNIT	PAPER NUMBER
1300 Post Road	2124	
Fairfield, CT 06430		

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/040,344	PAUW ET AL.
	Examiner	Art Unit
	Jason Mitchell	2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 January 2002</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-35</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-35</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>02 January 2002</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>01/02/02</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This application claims priority to provisional application 60/278,538 filed on

03/23/2001.

2.   Claims 1-35 are pending in this case.

Information Disclosure Statement

1.   The information disclosure statement filed 1/2/2002 fails to comply with 37 CFR

1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each

publication or that portion which caused it to be listed; and all other information or that

portion which caused it to be listed. It has been placed in the application file, but the

information referred to therein has not been considered.

2.

Drawings

3.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4)

because reference character "100" has been used to designate both a 'Tracing

Mechanism' and an 'Analysis tool' in Fig. 1. Corrected drawing sheets in compliance

with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of

the application.

4.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they include the following reference character(s) not mentioned in the

description: Reference numbers 510, 520 and 530 are incorrectly referred to as 210,

220 and 230 in the specification (pg. 7, line 9). Corrected drawing sheets in compliance

with 37 CFR 1.121(d), or amendment to the specification to add the reference

character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply

to the Office action to avoid abandonment of the application.

5.   Any amended replacement drawing sheet should include all of the figures

appearing on the immediate prior version of the sheet, even if only one figure is being

amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the

page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing

figures. If the changes are not accepted by the examiner, the applicant will be notified

and informed of any required corrective action in the next Office action. The objection to

the drawings will not be held in abeyance.

6.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claim 17 recites the limitation "said program task specification" in line 2. There is

insufficient antecedent basis for this limitation in the claim. For the purposes of this

examination, examiner's best understanding will be used and meaning for this phrase

will be assumed to be identical to that recited in claim 18, 'a specification of which

details to collect'

Claim 29 recites the limitation "said program task specification" in line 2. There is

insufficient antecedent basis for this limitation in the claim. For the purposes of this

examination, examiner's best understanding will be used and meaning for this phrase

will be assumed to be identical to that recited in claim 30, 'a specification of which

details to collect'

Claim Rejections - 35 USC § 101

8.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 1-2, 17-18, 20-25 and 28-30 are rejected under 35 U.S.C. 101 because the

claimed invention is directed to non-statutory subject matter. The claims recite a

method for analyzing a software system comprising, collecting data, providing that data

for analysis, modifying that data, as well as various methods of analyzing that data; but

fail to technologically embody the invention in a tangible medium (i.e. computer

readable medium), and consequently fail to produce a tangible or useful result.

Therefore the claims recite only nonstatutory subject matter.

Claims 33 and 35 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. The claims recite, respectively, a system and

article of manufacture monitoring and tracing details associated with a program task.

While the claims are technologically embodied in memory operatively coupled to a

processor, they fail to produce any result (i.e. providing results for analysis) and

therefore only recite nonstatutory subject matter.

Claim Rejections - 35 USC § 102

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10.   Claims 1-35 are rejected under 35 U.S.C. 102(b) as being anticipated by US

5,832,270 to Laffra et al. (Laffra).

Regarding Claim 1: Laffra discloses a method for analyzing behavior of a software

system (col. 1, lines 61-63 'visualizing the internal workings of object-oriented

software'), comprising: collecting details associated with a program task associated with

said software system (col. 1, lines 61-63 'the internal workings of object-oriented

software'); and providing said collected details for analysis (col. 1, lines 61-63

'visualizing the internal workings').

Regarding Claim 2: The rejection of claim 1 is incorporated; further Laffra discloses a

duration of said program task is defined (Fig. 3, step 330 'create or delete visual repr.')

by one or more conditions associated with a state of said software system (col. 2, lines

8-10 'an object instance being created, an object instance being destroyed').

Regarding Claim 3: The rejection of claim 2 is incorporated; further Laffra discloses

said one or more conditions includes an entry or exit of at least one specified method

(col. 2, lines 8-11 'a method being entered or a method being exited').

Regarding Claim 4: The rejection of claim 2 is incorporated; further Laffra discloses said one or more conditions includes a creation or deletion of at least one specified object (col. 2, lines 8-10 'an object instance being created, an object instance being destroyed').

Regarding Claim 5: The rejection of claim 2 is incorporated; further Laffra discloses said one or more conditions includes an invocation of at least one specified object (col. 6, lines 66-67 'the creation of a new object instance').

Regarding Claim 6: The rejection of claim 2 is incorporated; further Laffra discloses said one or more conditions includes a passing of at least one specified object or scalar value as an argument, return value or field value (col. 9, lines 16-20 'Syntactical elements allow the specification of one or more method triggers' and col. 9, lines 6-10 'Constraints').

Laffra discloses 'Constraints' as comparisons (col. 9, lines 9-10 'operator is a comparison operator') which can compare variables to constants or other variables (col. 9, lines 7-10 'local variables ... or instance variables'), and can be checked at various points including, in this case, a method call (col. 9, lines 16-20 'Syntactical elements allow the specification of one or more method triggers').

Regarding Claim 7: The rejection of claim 2 is incorporated; further Laffra discloses said one or more conditions includes at least one specified sequence of method invocations (col. 7, lines 41-43 'count the number of times a given method is executed ... when a certain threshold has been reached').

Regarding Claim 8: The rejection of claim 2 is incorporated; further Laffra discloses said one or more conditions includes at least one specified resource exceeding at least one specified threshold (col. 9, lines 6-10 'Constraints take the form of two operands and one operator. The operands are ... instance variables').

Regarding Claim 9: The rejection of claim 1 is incorporated; further Laffra discloses said collected details include an existence or sequence of specified method invocations (col. 7, lines 41-43 'count the number of times a given method is executed ... when a certain threshold has been reached').

Regarding Claim 10: The rejection of claim 1 is incorporated; further Laffra discloses said collected details include an existence or sequence of specified object creations and deletions (col. 2, lines 8-10 'an object instance being created, an object instance being destroyed').

Regarding Claim 11: The rejection of claim 1 is incorporated; further Laffra discloses said collected details include an existence or sequence of specified class loading and unloading (col. 2, lines 8-10 'an object instance being created, an object instance being destroyed')

Regarding Claim 12: The rejection of claim 1 is incorporated; further Laffra discloses said collected details include values of specified arguments to invocations of specified methods (col. 60-65 'one or more instance variables').

Regarding Claim 13: The rejection of claim 1 is incorporated; further Laffra discloses said collected details include values of specified return values from invocations of

specified methods (col. 2. lines 9-11 'a method being exited' and col. 9, lines 6-10

'Constraints').

Regarding Claim 14: The rejection of claim 1 is incorporated; further Laffra discloses

said collected details include values of specified field values for invoked objects or field

values for passed arguments (col. 60-65 'one or more instance variables').

Regarding Claim 15: The rejection of claim 1 is incorporated; further Laffra discloses

the step of collecting said details for at least one specified number of task instances

(col. 7, lines 10-11 'each time an object of the class employee is created').

Regarding Claim 16: The rejection of claim 1 is incorporated; further Laffra discloses

the step of collecting said details for at least one (1) specified number of threads (col. 1,

lines 61-63 'visualizing the internal workings of object-oriented software').

Regarding Claim 17: The rejection of claim 1 is incorporated; further Laffra discloses

the step of dynamically modifying a specification of which details to collect associated

with said analysis (col. 2, lines 17-19 'modify the visualization, without recompiling or

relinking the application programs').

Regarding Claim 18: The rejection of claim 1 is incorporated; further Laffra discloses

the step of dynamically modifying a specification of which details to collect (col. 2, lines

17-19 'modify the visualization, without recompiling or relinking the application

programs') in an iterative process (Fig. 3, step 380 'check all visual repr. Use script').

Regarding Claim 19: The rejection of claim 1 is incorporated; further Laffra discloses

the step of connecting to a running version of said software system (claim 7. 'rules can

be changed independent of the ... execution of the application'). By adding rules to an

empty 'visualization script' one can be said to be connecting to a running version of said software system.

Regarding Claim 20: The rejection of claim 1 is incorporated; further Laffra discloses the step of visually analyzing said collected details (col. 1 lines 61-63 'visualizing').

Regarding Claim 21: The rejection of claim 1 is incorporated; further Laffra discloses the step of visually analyzing said collected details (col. 1 lines 61-63 'visualizing') for a plurality of instances of said program task (col. 7, lines 10-11 'each time an object of the class employee is created').

Regarding Claim 22: The rejection of claim 1 is incorporated; further Laffra discloses the step of quantitatively analyzing said collected details (col. 7, lines 7-8 'the height of the box is a function of the salary of the employee').

Regarding Claim 23: The rejection of claim 1 is incorporated; further Laffra discloses the step of quantitatively analyzing said collected details (col. 7, lines 7-8 'the height of the box is a function of the salary of the employee') for a plurality of instances of said program task (col. 7, lines 10-11 'each time an object of the class employee is created').

Regarding Claim 24: Laffra discloses a method for tracing details associated with a program task executing in a software system (col. 1, lines 61-63 'visualizing the internal workings of object-oriented software'), comprising: monitoring said software system to identify said program task (col. 7, lines 66-67 'notifies the creation of a new object instance'); and tracing details associated with said program task (col. 7, lines 14-18 'the salary of the employee gets updated').

Regarding Claim 25: The rejection of claim 24 is incorporated; further Laffra discloses a duration of said program task is defined by one or more conditions associated with a state of said software system (col. 2, lines 8-10 'an object instance being created, an object instance being destroyed').

Regarding Claim 26: The rejection of claim 25 is incorporated; further Laffra discloses said one or more conditions is selected from the group consisting essentially of an entry or exit of at least one specified method (col. 2, lines 8-11 'a method being entered or a method being exited'), a creation or deletion of at least one specified object (col. 2, lines 8-10 'an object instance being created, an object instance being destroyed'), an invocation of at least one specified object (col. 2, lines 8-10 'an object instance being created, an object instance being destroyed'), a passing of at least one specified object or scalar value as an argument, return value or field value (col. 9, lines Syntactical elements allow the specification of one or more method triggers' and col. 9, lines 6-10 'Constraints'), at least one specified sequence of method invocations (col. 7, lines 41-43 'count the number of times a given method is executed ... when a certain threshold has been reached'), and at least one specified resource exceeding at least one specified threshold (col. 9, lines 6-10 'Constraints take the form of two operands and one operator. The operands are ... instance variables').

Regarding Claim 27: The rejection of claim 24 is incorporated; further Laffra discloses said collected details include at least one of the following: an existence or sequence of specified method invocations col. 7, lines 41-43 'count the number of times a given method is executed ... when a certain threshold has been reached'), an existence or

sequence of specified object creations and deletions (col. 2, lines 8-10 'an object

instance being created, an object instance being destroyed'), an existence or sequence

of specified class loading and unloading (col. 2, lines 8-10 'an object instance being

created, an object instance being destroyed'), values of specified arguments to

invocations of specified methods (col. 9, lines Syntactical elements allow the

specification of one or more method triggers' and col. 9, lines 6-10 'Constraints'); values

of specified return values from invocations of specified methods (col. 2. lines 9-11 'a

method being exited' and col. 9, lines 6-10 'Constraints'), and values of specified field

values for invoked objects or field values for passed arguments (col. 60-65 'one or more

instance variables').

Regarding Claim 28: The rejection of claim 24 is incorporated; further Laffra discloses

the step of collecting said details for at least one specified number of task instances

(col. 7, lines 10-11 'each time an object of the class employee is created') and collecting

details for at least one (1) specified number of threads (col. 1, lines 61-63 'visualizing

the internal workings of object-oriented software').

Regarding Claim 29: The rejection of claim 24 is incorporated; further Laffra discloses

the step of dynamically modifying said program task specification associated with said

analysis (col. 2, lines 17-19 'modify the visualization, with out recompiling or relinking

the application programs') in an iterative process (Fig. 3, step 380 'check all visual repr.

Use script').

Regarding Claim 30: The rejection of claim 24 is incorporated; further Laffra discloses

the step of dynamically modifying a specification of which details to collect (col. 2, lines

17-19 'modify the visualization, with out recompiling or relinking the application programs') in an iterative process (Fig. 3, step 380 'check all visual repr. Use script').

Regarding Claim 31: The rejection of claim 24 is incorporated; further Laffra discloses the step of connecting to a running version of said software system (claim 7. 'rules can be changed independent of the ... execution of the application').

Regarding Claims 32 and 34: Laffra discloses a system for analyzing behavior of a software system, comprising: a memory that stores computer-readable code (Fig. 1, Application Program 102); and a processor operatively coupled to said memory, said processor configured to implement said computer-readable code (Fig. 1, CPU 116), said computer-readable code configured to: collect details associated with a program task associated with said software system, and provide said collected details for analysis (col. 1, lines 61-63 'visualizing the internal workings of object-oriented software').

Regarding Claims 33 and 35: Laffra discloses a system for tracing details associated with a program task executing in a software system, comprising: a memory that stores computer-readable code (Fig. 1, Application Program 102); and a processor operatively coupled to said memory, said processor configured to implement said computer-readable code (Fig. 1, CPU 116), said computer-readable code configured to: monitor said software system to identify said program task; and trace details associated with said program task (col. 1, lines 61-63 'visualizing the internal workings of object-oriented software').

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. US 6,654,948 B1 to Konuru et al.; US 6,006,032 to Blandy et al.;

US 5,89,6,538 to Blandy et al.; US 5,835,770 to Shum et al.; US 5,657,480 to

Jacobson; US 5,628,017 to Kimmerly et al.; US 5,592,600 to De Pauw et al.; US

5,438,574 to Taniguchi; US 5,355, 487 to Keller et al.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jason Mitchell whose telephone number is 571-272-

3728. The examiner can normally be reached Monday-Thursday 7:30am - 5:00 pm,

with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kakali Chaki can be reached on 571-272-3719. The fax phone number for

the organization where this application or proceeding is assigned is 703-308-3988.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Jason Mitchell

10/29/04

KAKALI CHAKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100